CERTIFICATE

This is to certify that the project entitled "Management software of apple store " submitted by Vinayak Mishra of Class XIIC(commerce) during the academic year 2025–26, is a genuine work carried out under my supervision and guidance.

This project has been submitted in partial fulfillment of the requirements of the Central Board of Secondary Education (CBSE) for the subject **Informatics Practices** .

I further certify that this work has not been submitted to any other institution for the award of any certificate.

Teacher's Signature : Name :

Mrs. Suman choudhary

Designation :

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to my respected teacher **Mrs Suman Chaudhary** for her valuable guidance, encouragement, and support throughout the completion of this project. I am also thankful to our Principal Mr. Arvind for providing us with all the facilities and opportunities to complete this work successfully. I extend my heartfelt thanks to my classmates, friends, and family members for their cooperation and motivation during the preparation of this project. Finally, I sincerely acknowledge the role of the Central Board of Secondary Education (CBSE) for prescribing such projects which enhance our learning and practical knowledge .

Table Of Content

1- About Python

2- About CSV File

3- About Project

4- Software and Hardware Required

5- Source Code

6- Output

7- Graph

8- Summary

9- Bibliography

PYTHON

Introduction:-

Python is one of the most popular and widely used programming languages in the world today. **It was created by Guido van Rossum in 1991**. Python is a high-level, interpreted, and general-purpose programming language. **It is simple, powerful, and versatile, which makes it suitable for beginners as well as professionals.**

The special thing about Python is its easy-to-read syntax. It looks very similar to the English language, so students and programmers can understand and write code quickly. This is why Python is often called a “beginner-friendly” language.

Features of Python :-

- **Simmple and Easy** – Python is very simplecompared to other programming languages like C++ or Java.
- **Interpreted Language** – It does not need to be compiled separately; it runs directly line by line.
- **Cross-Platform** – It can work on different operating systems like Windows, Linux, and Mac.
- **Object-Oriented** – It supports classes and objects, which makes programming more organized.
- **Free and Open Source** – Anyone can use it without paying and can even contribute to its development.
- **Large Libraries** – Python has thousands of built-in libraries for mathematics, data analysis, web development, machine learning, and much more

Applications of Python :-

- **Web Development:** Creating websites using frameworks like Django and Flask.
- **Data Science & Machine Learning:** Analyzing data and building smart AI systems.
- **Automation:** Writing scripts to perform tasks automatically.
- **Game Development:** Making simple as well as advanced games.
- **Desktop Applications:** Building software and tools for daily use.
- **Cybersecurity & Ethical Hacking :**Used to build penetration testing tools, malware analysis, and security scanners.

About C.S.V

A CSV file stands for Comma Separated Values file. It is one of the simplest formats for storing data in a tabular form, like in a spreadsheet or database. Each line in a CSV file is a record, and within each line, values are separated by commas (,) or sometimes by other delimiters like semicolons (;) or tabs (\t). For example:
Name, Age, City

Rahul, 18, Delhi

Priya, 20, Mumbai

Aman, 19, Kolkata

This data looks like a simple table but is stored in plain text, making it easy to read and transfer between applications such as Excel, Google Sheets, and Python programs.

Software and Hardware Required

1) **Software required** :-

❖ Operating System

You can run this program on:

➢ Windows 10 / 11

➢ Linux (Ubuntu, etc.)

➢ macOS (any recent version)

2) **Hardware required**:-

Program is lightweight and can run on a normal computer.

❖ Minimum Hardware Requirements

Processor: Dual-core CPU (Intel i3 / Ryzen 3 or equivalent)

RAM: 4 GB

Storage: 200 MB free space

Graphics: No graphics card required

Keyboard + Monitor (basic)

❖ Recommended Hardware (for smooth performance)

Processor: Intel i5 / Ryzen 5

RAM: 8 GB,Storage: SSD for faster loading

About project

Project Title:

<u>“Apple Store Management System using Python and Pandas”</u>

Objective:

The main objective of this project is to create a management software that can store and manage information about the store’s stock, employees, and sales using the Python Pandas library. The system allows users to easily add, view, and delete data through a simple text-based interface.

Introduction:

In today’s world, data management plays a key role in running any business efficiently. This project aims to design a small management system for an Apple Store using Python. The program helps manage records of stock items, employees, and customer purchases in a structured and organized way.Using the Pandas library, data can be stored, updated, and displayed in the

form of dataframes, which make handling large amounts of data simple and efficient.

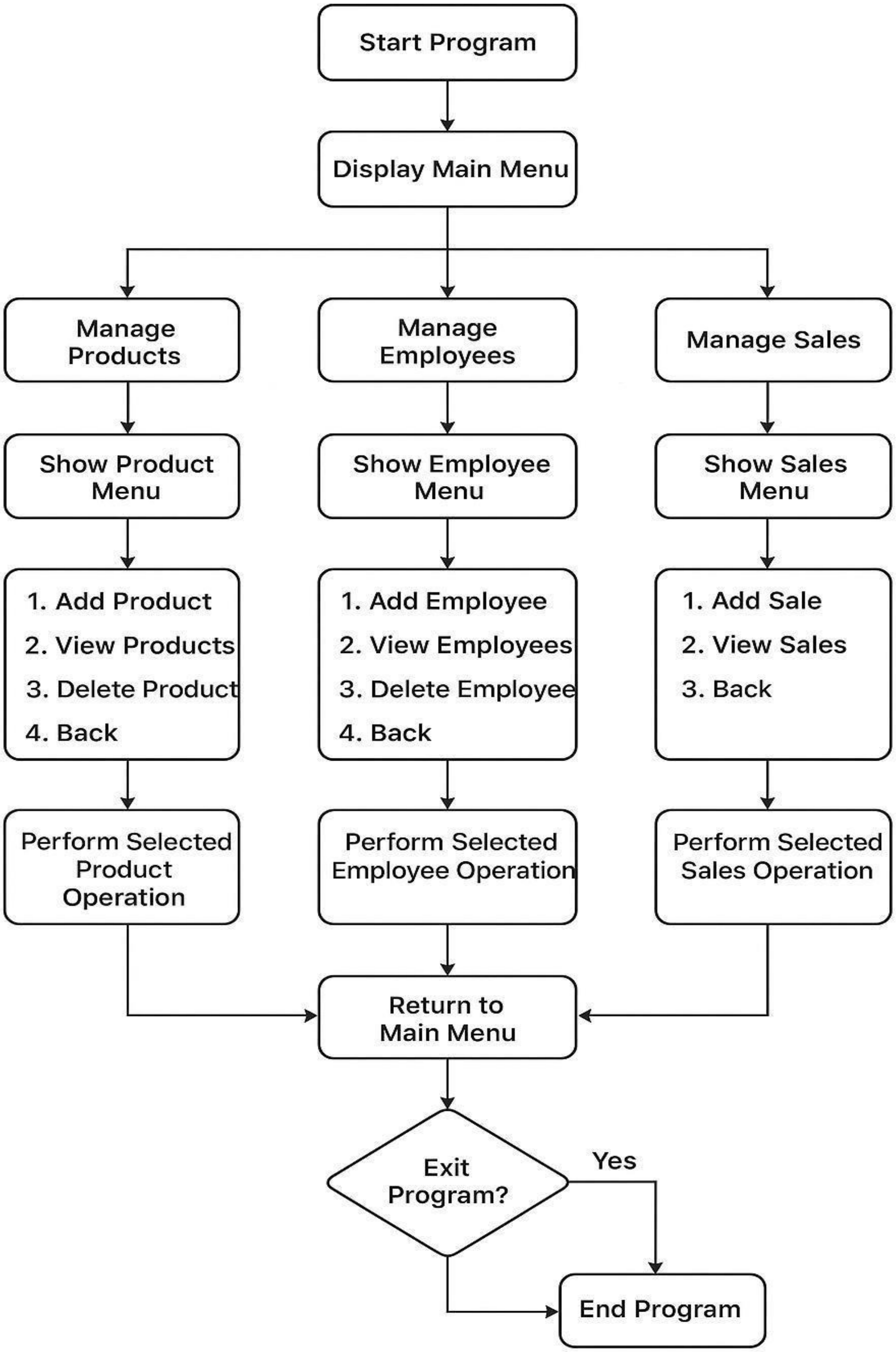
Software & Tools Used:

Programming Language: Python

Library Used: Pandas **Features**:

- ❖ **Add Data**: Allows the user to add new stock, employee, or sales records.
- ❖ **View Data**: Displays all the stored data in a tabular format.
- ❖ **Delete Data**: Removes unwanted or old records from the system.
- ❖ **User Menu**: Easy-to-use menu-driven program.
- ❖ **Data Handling**: Uses Pandas DataFrames for easy data storage and management.

Flow chart



Start Program
Display Main Menu
Manage Products
Manage Employees
Manage Sales
Show Product Menu
Show Employee Menu
Show Sales Menu
1. Add Product
2. View Products
3. Delete Product
4. Back
1. Add Employee
2. View Employees
3. Delete Employee
4. Back
1. Add Sale
2. View Sales
3. Back
Perform Selected Product Operation
Perform Selected Employee Operation
Perform Selected Sales Operation
Return to Main Menu
Exit Program?
Yes
End Program

Source code

```
Import pandas as pd # DataFrames

Products_df=
pd.DataFrame(columns=[“ProductID”,
“ProductName”, “Price”, “Quantity”])

Employees_df = pd.DataFrame(columns=[“EmpID”,
“Name”, “Position”, “Salary”])

Sales_df = pd.DataFrame(columns=[“SaleID”,
“ProductName”, “Quantity”, “TotalPrice”])



# Global counters

Product_id = 1

Employee_id = 1
```

```
Sale_id = 1


Def manage_products():

    Global products_df, product_id

    While True:

        Print("\n--- Product Management ---")

        Print("1. Add Product")

        Print("2. View Products")

        Print("3. Delete Product")

        Print("4. Back to Main Menu")

        Choice = input("Enter choice: ")
```

```
If choice == “1”:

    Name = input(“Enter Product Name: “)

    Price = float(input(“Enter Price: “))

    Qty = int(input(“Enter Quantity: “))
Products_df.loc[len(products_df)] = [product_id, name,
price, qty]

    Print(“Product Added!”)

    Product_id += 1



Elif choice == “2”:

    Print(“\n Products List:”)

    Print(products_df)
```

Elif choice == “3”:

Pid = int(input(“Enter ProductID to delete: “))

Products_df = products_df[products_df[“ProductID”] != pid]

Print(“ Product Deleted!”)

Elif choice == “4”:

Break

Else:

Print(“ Invalid choice! Try again.”)

Def manage_employees():

```
Global employees_df, employee_id

While True:

    Print("\n--- Employee Management ---")

    Print("1. Add Employee")

    Print("2. View Employees")

    Print("3. Delete Employee")

    Print("4. Back to Main Menu")

    Choice = input("Enter choice: ")



    If choice == "1":

        Name = input("Enter Employee Name: ")
```

Position = input(“Enter Position: “)

Salary = float(input(“Enter Salary: “))

Employees_df.loc[len(employees_df)] = [employee_id, name, position, salary]

Print(“ Employee Added!”)

Employee_id += 1

Elif choice == “2”:

Print(“\n Employees List:”)

Print(employees_df)

Elif choice == “3”:

Eid = int(input("Enter EmpID to delete: "))

Employees_df = employees_df[employees_df["EmpID"] != eid] Print("Employee Deleted!")

Elif choice == "4":

Break

Else:

Print(" Invalid choice! Try again.")

Def manage_sales():

Global sales_df, sale_id, products_df While True:

Print("\n--- Sales Management ---")

```
Print("1. Add Sale")

Print("2. View Sales")

Print("3. Back to Main Menu")

Choice = input("Enter choice: ")


If choice == "1":

    Pname = input("Enter Product Name: ")
Qty = int(input("Enter Quantity: "))


    Product =
products_df[products_df["ProductName"] == pname]

    If not product.empty:
```

```
            Price = float(product["Price"].values[0])

            Total = qty * price

            Sales_df.loc[len(sales_df)] = [sale_id, pname,
qty, total]

            Print(f" Sale Recorded! Total Price: ₹{total}")
Sale_id += 1

        Else:

            Print(" Product not found!")



    Elif choice == "2":

        Print("\n Sales Records:")

        Print(sales_df)
```

```
        Elif choice == “3”:

            Break

        Else:

            Print(“ Invalid choice! Try again.”)



Def main_menu():

    While True:

        Print(“\n=== Apple Store Management System ===”)

        Print(“1. Manage Products”)

        Print(“2. Manage Employees”)

        Print(“3. Manage Sales”)
```

```
Print("4. Exit")

Choice = input("Enter choice: ")


If choice == "1":

    Manage_products()

Elif choice == "2":

    Manage_employees()

Elif choice == "3":

    Manage_sales()

Elif choice == "4":

    Print("Exiting… Goodbye!")

    Break
```

Else:

Print(“ Invalid choice! Try again.”)

 # Run program Main_menu()

Output

```
=== Apple Store Management System ===
1. Manage Products
2. Manage Employees
3. Manage Sales
4. Exit
Enter choice:
```

Manage product

```
--- Product Management ---
1. Add Product
2. View Products
3. Delete Product
4. Back to Main Menu
Enter choice:
```

➢ **Add products**

```
--- Product Management ---
1. Add Product
2. View Products
3. Delete Product
4. Back to Main Menu
Enter choice: 1
Enter Product Name: iphone17
Enter Price: 110000
Enter Quantity: 100
 Product Added!
```

➢View product

product list :

	product Id	product name	price	quantity
0	1	iPhone	174900	100
1	2	iPad	34900	70
2	3	MacBook	82800	20
3	4	iMac	134900	90
4	5	Apple Watch	46900	100
5	6	AirPods	20000	500
6	7	Apple TV	19900	60
7	8	HomePod	10900	40
8	9	Mac Mini	57990	30
9	10	Mac Studio	214900	10

➢ Delete products

Product list :

	product Id	product name	price	quantity
0	1	iPhone	174900	100
1	2	iPad	34900	70
2	3	MacBook	82800	20
3	4	iMac	134900	90
4	5	Apple Watch	46900	100
5	6	AirPods	20000	500
6	7	Apple TV	19900	60
7	8	HomePod	10900	40
8	9	Mac Mini	57990	30

Employee Management

```
--- Employee Management ---
1. Add Employee
2. View Employees
3. Delete Employee
4. Back to Main Menu
Enter choice:
```

•

➢ **Add employee**

```
--- Employee Management ---
1. Add Employee
2. View Employees
3. Delete Employee
4. Back to Main Menu
Enter choice:
```

- **View Employee**

Employee list :

	EmpID	Name	Position	Salary
0	1	Divya Sundriyal	Owner	100000
1	2	Harshit Rawat	HR	60000
2	3	Yashika Rawat	sales girl	25000
3	4	Adarsh Kumar	sales boy	25000
4	5	Priyanshi Sharma	sales boy	25000
5	6	Anuska Karki	sales girl	25000
6	7	Arnav Singh	sales boy	25000

- **Delete Employee**

Employee list :

	EmpID	Name	Position	Salary
0	1	Divya Sundriyal	Owner	100000
1	2	Harshit Rawat	HR	60000
2	3	Yashika Rawat	sales girl	25000
3	4	Adarsh Kumar	sales boy	25000
4	5	Priyanshi Sharma	sales boy	25000
5	6	Anuska Karki	sales girl	25000

Sales management

```
--- Sales Management ---
1. Add Sale
2. View Sales
3. Back to Main Menu
Enter choice: 1
```

- **Add sales**

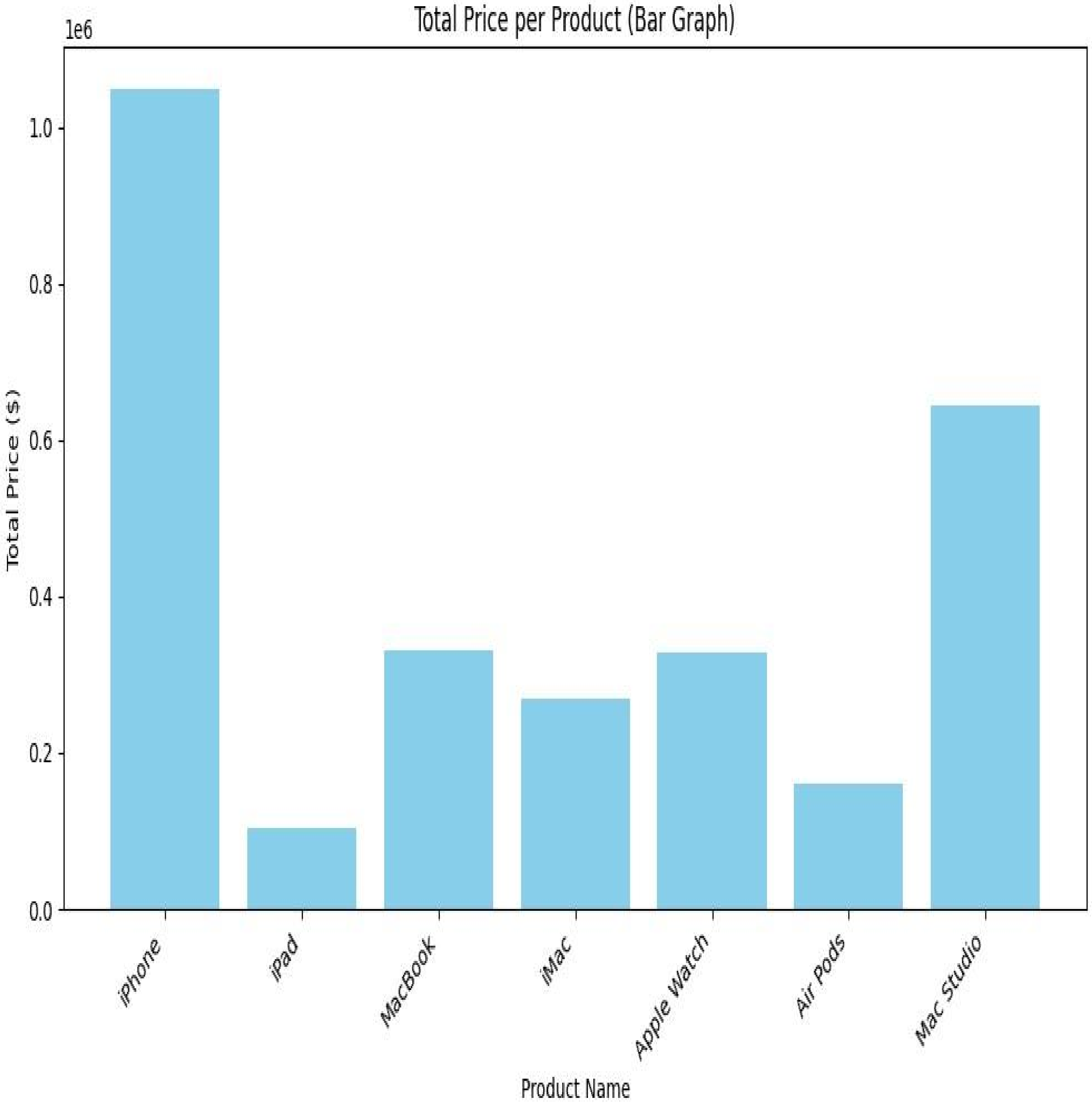
```
--- Sales Management ---
1. Add Sale
2. View Sales
3. Back to Main Menu
Enter choice: 1
Enter Product Name: iphone
Enter Quantity: 1
Sale Recorded! Total Price: ₹174900.0
```

- ➢ **View sales**

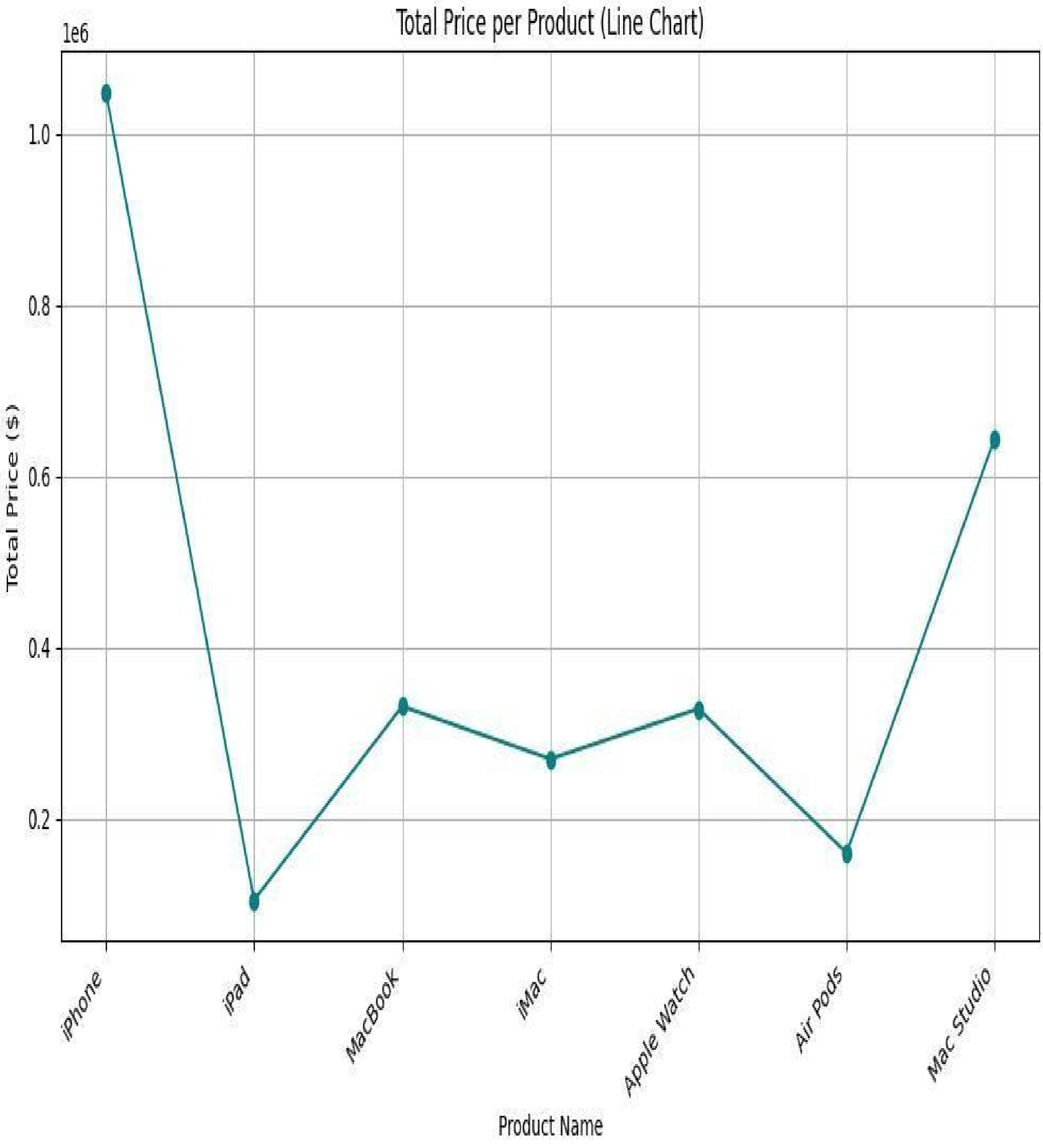
Sales List :

	SaleID	ProductName	Quantity	TotalPrice
0	1	iPhone	6	1049400.0
1	2	iPad	3	104700.0
2	3	MacBook	4	331200.0
3	4	iMac	2	269800.0
4	5	Apple Watch	7	328300.0
5	6	Air Pods	8	160000.0
6	10	Mac Studio	3	644700.0

Bar Graph


Total Price per Product (Bar Graph)
1e6
1.0
0.8
0.6
0.4
0.2
0.0
Total Price ($)
iPhone
iPad
MacBook
iMac
Apple Watch
Air Pods
Mac Studio
Product Name

Line Chart



Total Price per Product (Line Chart)
1e6
1.0
0.8
0.6
0.4
0.2
Total Price ($)
iPhone
iPad
MacBook
iMac
Apple Watch
Air Pods
Mac Studio
Product Name

Projects Summary

This project titled “Apple Store Management System using Python and Pandas” is designed to develop a simple and efficient management system for handling store operations such as product stock, employee records, and sales data. The system is created using the Python programming language with the help of the Pandas library, which stores and manages data in the form of DataFrames.

The main objective of this project is to provide an easy-to-use, menu-driven interface that allows users to add, view, and delete records in an organized and structured manner. The program helps in maintaining accurate data and improves efficiency in managing store information. The project demonstrates the practical use of Python in data handling and management. It also highlights the importance of CSV files and tabular data storage for real-world applications. Overall, this project shows how Python can be effectively used to build a

basic management system for business purposes in a simple, reliable, and userfriendly way.

Bibliograpy

For successfully completing my project file I have taken help from the following :-

1 - Ip book

2 - idle python

3 – matplotlib compiler